

Remarks

The Examiner's indication that all of the information submitted with Applicant's Information Disclosure Statement of January 31, 2003 has been considered is acknowledged and appreciated.

The Examiner acknowledged Applicants' election of Group II, but failed to acknowledge that it was an election with traverse. Reconsideration of the restriction requirement has been requested several times. The Examiner is respectfully asked to reconsider the restriction requirement, as previously requested, in view of Applicant's election with traverse.

Claim 9 has been amended herein merely to recite "comprising" terminology. Claim 11 has been amended herein merely to recite "a" as the article preceding "group." Claim 20 has been amended herein merely to recite at least one reagent. Claims 9, 11 and 20 are in no way narrowed by virtue of these amendments. No new matter has been added to the specification by virtue of these amendments.

Claims 8 and 9 have been rejected under 35 U.S.C. Section 102(b) as allegedly being anticipated by U.S. Patent No. 6,110,830 to Skrovan *et al.* (hereinafter, simply "Skrovan"). These rejections are respectfully traversed.

At the outset, while the Examiner has stated that the rejection is based on Skrovan, the Examiner's reasoning refers only to an abstract of "Grieger *et al.*" The rejections are thus believed to be flawed, improper, and/or insufficiently supported.

In order to respond, Applicants assume that the rejections are based on Skrovan, as alleged. Skrovan fails to teach or to suggest the invention of either Claim 8 or Claim 9. Claim 8 is directed to a method for planarizing a surface comprising directing ozone gas onto said surface and causing relative motion of said surface and a polishing pad in contact therewith, when a fluid is present. Claim 9 is directed to a method for planarizing a surface comprising directing onto said surface an aqueous solution containing ozone and causing relative motion of said surface and a polishing pad in contact therewith.

Skrovan mentions ozone only in connection with a second fluid that is used to displace a first fluid, or slurry, after planarization. (See col. 4, line 18 (italics added): "*after layer 18 is planarized, a slurry can be displaced from over insulative material 14 with a second fluid.*") Skrovan's post-planarization teaching fails to teach or to suggest anything concerning actual planarizing of a surface. Thus, Skrovan fails to teach or to suggest the

invention of either Claim 8 or Claim 9, each of which is directed to a method of planarizing a surface. Further, Skrovan defines its fluids as encompassing liquids. (See col. 4, lines 18-28.) Thus, Skrovan further fails to teach or to suggest "a method of planarizing a surface comprising directing ozone gas onto said surface..." as recited in Claim 8.

In view of the foregoing, it is respectfully submitted that the Examiner's characterization of Skrovan (assuming it was a characterization of Skrovan, not Greiger *et al.*), as "disclos[ing] the method of planarizing a surface by introducing ozone containing solution onto the surface (abstract)" is incorrect.

Skrovan further fails to teach or suggest "a method of planarizing a surface comprising ... causing relative motion of said surface and a polishing pad in contact therewith," as recited in each of Claims 8 and 9. As remarked above, Skrovan teaches a method of displacing a slurry from over an insulative material with a second fluid, which method is carried out after a planarization process. This simple fluid-displacement method of Skrovan is explicitly stated as being separate from and following planarization. Thus, this post-planarization fluid-displacement method is in no way associated with actual planarization. There is absolutely no teaching or suggestion otherwise in Skrovan.

Thus, it is respectfully submitted that the Examiner's statement of "inherency" (page 3, item 6, lines 4-7) is incorrect, as it refers to what is alleged to be inherent in connection with a planarizing process, when Skrovan's teaching concerns a clearly post-planarization process.

In view of the foregoing, it is believed that the rejections of Claims 8 and 9 have been overcome.

Claims 10-26 have been rejected under 35 U.S.C. Section 103(a) as allegedly being unpatentable over Skrovan. These rejections are respectfully traversed.

The remarks above concerning Skrovan are incorporated herein in this traversal. Just as Skrovan fails to teach or suggest a method of planarizing a surface comprising directing onto said surface an aqueous solution containing ozone and causing relative motion of said surface and a polishing pad in contact therewith, it further fails to teach or suggest any such method comprising abrasive particles in said aqueous solution, any such method wherein abrasive particles in said aqueous solution are selected from any particular group, any such method comprising at least one ammonium salt in said aqueous solution, or any such method wherein at least one ammonium salt in said aqueous solution is ammonium carbonate.

Skrovan simply fails to teach its second fluid-displacement fluid as having any abrasive particle component. The Examiner's comments concerning Skrovan in relation to claims 10-13 (page 3, item 8 – page 4, line 3) are believed to be incorrect as being out of context with Skrovan post-planarization teaching.

In view of the foregoing, it is believed that the rejections of claims 10-13 have been overcome.

The Examiner's comments regarding Claims 14-16 are also believed to be inapplicable, as each of the claimed methods is applicable to the various surfaces recited. The Examiner has provided no *prima facie* showing to support his conclusionary allegation (page 4, lines 4-7) that it would have been obvious to use various materials and structures in connection with the present invention, and no such showing is found in Skrovan.

The Examiner has failed to provide any showing at all concerning Claims 17-20 and 26, despite his identification of "claims 18-26" at page 4, lines 8-10, as none of these claims concern temperature or concentration of a solution. As such, Applicants bear no burden of rebuttal. Applicants nonetheless point out that the recitation concerning the directing of the aqueous solution (Claim 17), the recited location (Claims 17 and 18), or spin-etching (Claim 26), is neither taught nor suggested by Skrovan. Further, Applicants point out that the recitation concerning pH (Claim 19), or at least one reagent (Claim 20), is neither taught nor suggested by Skrovan in connection with a method of planarizing, as remarked above. The Examiner has not shown otherwise.

As to Claims 21-23, Skrovan fails to teach or to suggest controlling a temperature of an aqueous solution (Claims 21-23), such controlling comprising lowering a temperature (Claim 22), or such controlling comprising refrigerating the aqueous solution (Claim 23). In any event, as remarked above, Skrovan's aqueous solution is not used in a method of planarization, as it is a post-planarization flushing solution, the temperature of which is not taught or suggested as being of particular interest or calling for any particular control. As to Claims 24 and 25, Skrovan fails to teach or to suggest controlling a concentration of ozone in an aqueous solution (Claim 24), or such controlling comprising controlling the concentration of ozone such that it is less than or equal to 20 ppm, that is used in a method of planarization, as it teaches its aqueous solution only in connection with a post-planarization flushing method and only in connection with an ozone concentration of at least 5% (by atomic percent) (col. 4, lines 22-24). The Examiner has failed to show otherwise.

In view of the foregoing, it is believed that the rejections of Claims 10-26 have been overcome.

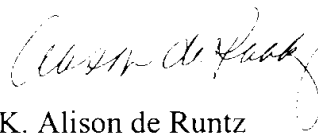
It is respectfully submitted that a *prima facie* showing in support of the various rejections of the Claims has not been made. If the Examiner is relying on any unstated or implicit official notice with respect to any comment as to what is alleged to be obvious in the art, or in any with respect to the rejections, Applicants request that any such official notice be made explicit, so that it may be appropriately addressed.

The subject matter of Claims 1-26 is believed to be novel and non-obvious.

Conclusion

Reconsideration of the restriction requirement has yet again been requested in view of Applicants' prior traversal and multiple requests for reconsideration that have not been addressed. Claims 1-26 define novel and non-obvious subject matter of the present invention. Therefore, an early notification that the application is in condition for allowance is earnestly solicited.

Respectfully submitted,



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